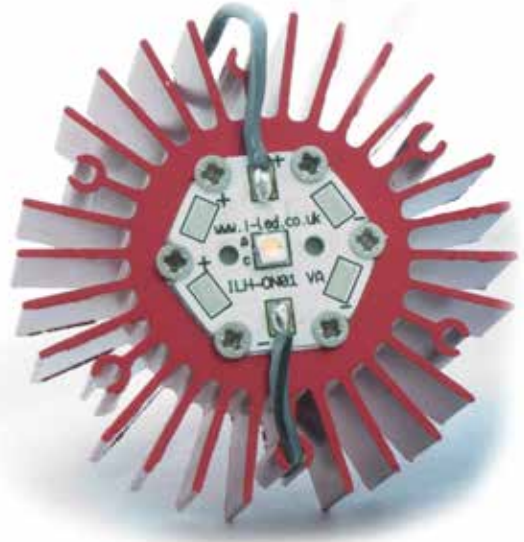


PiNoir Basic Development Kit

ILK-PiNoir-BASIC

Product Overview

ILS have developed and produced a simple and compact IR device designed to work in conjunction with your PiNoir camera for the Raspberry PI. Featuring the latest IR technology from Osram Opto Semiconductors the IR PowerStar is one of the smallest infrared devices on the market with more than one watt of optical power. Featuring Nanostack™ chip technology which allows the typical optical power to reach 1070mW at an operating current of 1A. Secondary lens can be fitted to widen or reduce the beam angle.



Why Use the PiNoir Development Kit?

- Oslon Black IR is today's smallest IRED
- Compact Discrete Illuminator to work with PiNoir Camera
- 940nm is undetectable to human eye response
- Automotive standard LEDs
- Record breaking high performance 1030mW power
- Optional Dragon Dome with narrow angle 12 degree lens

Kit Contents

- 1 x Oslon Black IR 850nm Star board with 200mm wires - ILH-IO01-85NL-SC201-WIR200.
- 1 x LED Heat sink round 50x20mm Blue Kit with TIM - ILA-HSINK-STAR-50X20MM-BLU-K.
- 1 x Constant current 350mA LED Driver - IZC035-005F-0067C-QA

For Further Information – please visit

[ILS Oslon IR PowerStars](#)

[ILS Heat sinks](#)

[ILS Thermal Interface Material](#)

[ILS Constant Current Power Supply](#)

Assembly information

Mounting PCB to the Heat sink

1) Provided in the heat sink kit you will find SCREWM2X4-PACK6. We will use these to fit the PCB to the Heatsink lining up with the TIM already stuck to the heat sink.

Powering Up

1) Connect the LED module to the power supply before powering up as hot plugging can cause irreparable damage to the LEDs.

Other LED Engines suitable for PiNoir

LED Colour	ILS Part Number	Description
850	ILH-IO01-85NL-SC201-WIR200.	IR OSOLON 850nm Star + lens
Stack 850	ILH-IO01-85SL-SC201-WIR200.	IR OSOLON Stack 850nm Star + lens
Stack 850 Wide	ILH-IW01-85SL-SC201-WIR200.	IR OSOLON Stack Wide 850nm Star + lens
Stack 940 Wide	ILH-IW01-94SL-SC201-WIR200.	IR OSOLON Stack Wide 940nm Star + lens
Stack 940	ILH-IO01-94SL-SC201-WIR200.	IR OSOLON Stack 940nm Star + lens
850	ILH-IO04-85NL-SC201-WIR200.	4 IR OSOLON 850nm Star + lens
Stack 850	ILH-IO04-85SL-SC201-WIR200.	4 IR OSOLON Stack 850nm Star + lens
Stack 850 Wide	ILH-IW04-85SL-SC201-WIR200.	4 IR OSOLON Stack Wide 850nm Star + lens
Stack 940 Wide	ILH-IW04-94SL-SC201-WIR200.	4 IR OSOLON Stack Wide 940nm Star + lens
Stack 940	ILH-IO04-94SL-SC201-WIR200.	4 IR OSOLON Stack 940nm Star + lens

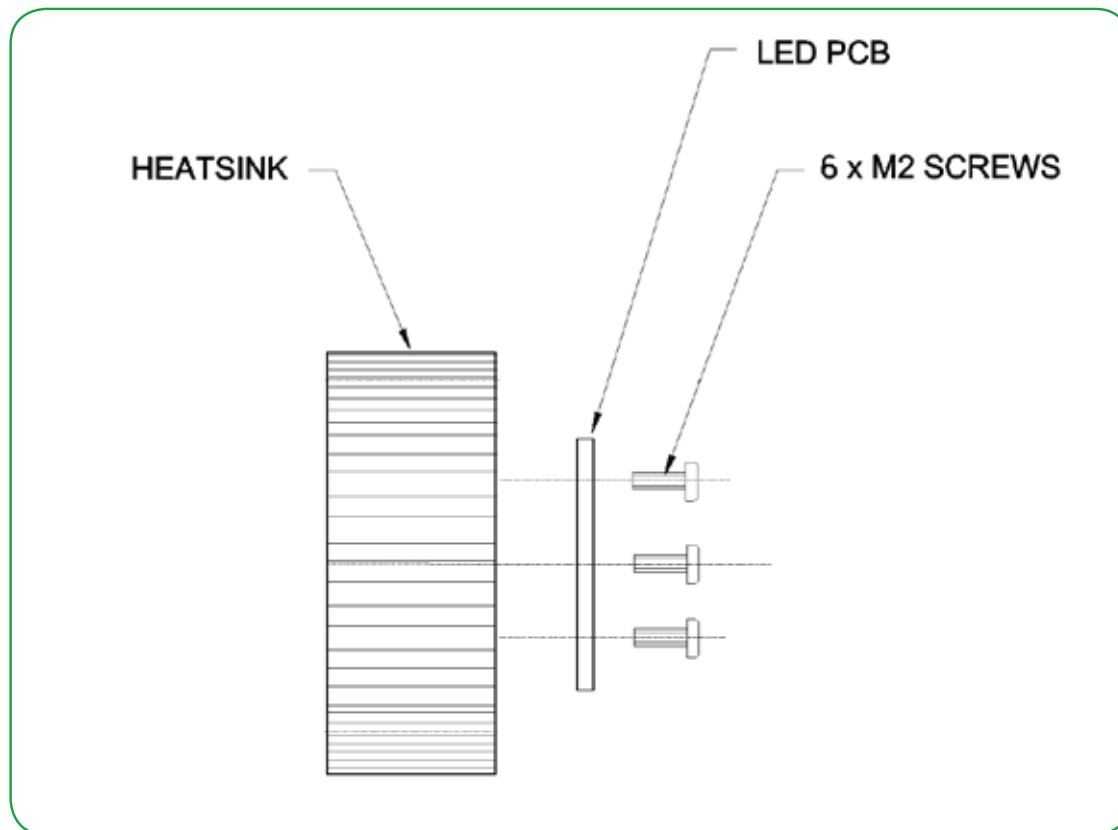
As stand all PiNoir kits will be supplied with an 850nm Osolon Black Star. However if you are considering more power, tighter or wider beam angles please consult the list below for other options. To exchange a PCB with another simply unscrew the existing fitting and fix in place.

LED Colour	ILS Part Number	Description	Output Power @1A (tp=10mS)	Radiance Angle
Dragon DOME 850	ILH-IT01-85NL-SC201-WIR20.	IR Dragon Dome PowerStar 850nm $\pm 12^\circ$ lens	430mW	$\pm 12^\circ$
Dragon 850	ILH-ID01-85NN-SC201-WIR200.	IR Dragon 850nm Star $\pm 60^\circ$ No lens	950mW	$\pm 60^\circ$
Dragon 940	ILH-ID01-94NN-SC201-WIR200.	IR Dragon Stack 940nm Star $\pm 60^\circ$ No lens	500mW	$\pm 60^\circ$
850	ILH-IO01-85NL-SC201-WIR200.	IR OSOLON 850nm Star + lens	600mW	$\pm 45^\circ$
Stack 850	ILH-IO01-85SL-SC201-WIR200.	IR OSOLON Stack 850nm Star + lens	1070mW	$\pm 45^\circ$
Stack 850 Wide	ILH-IW01-85SL-SC201-WIR200.	IR OSOLON Stack Wide 850nm Star + lens	1030mW	$\pm 45^\circ$
Stack 940 Wide	ILH-IW01-94SL-SC201-WIR200.	IR OSOLON Stack Wide 940nm Star + lens	215W	$\pm 75^\circ$
Stack 940	ILH-IO01-94SL-SC201-WIR200.	IR OSOLON Stack 940nm Star + lens	935mW	$\pm 75^\circ$
850	ILH-IO04-85NL-SC201-WIR200.	4 IR OSOLON 850nm Star + lens	2400mW	$\pm 45^\circ$
Stack 850	ILH-IO04-85SL-SC201-WIR200.	4 IR OSOLON Stack 850nm Star + lens	4280mW	$\pm 45^\circ$
Stack 850 Wide	ILH-IW04-85SL-SC201-WIR200.	4 IR OSOLON Stack Wide 850nm Star + lens	4120mW	$\pm 45^\circ$
Stack 940 Wide	ILH-IW04-94SL-SC201-WIR200.	4 IR OSOLON Stack Wide 940nm Star + lens	1075mW	$\pm 75^\circ$
Stack 940	ILH-IO04-94SL-SC201-WIR200.	4 IR OSOLON Stack 940nm Star + lens	3740mW	$\pm 75^\circ$

Lenses

ILS Part Number	OSLON IR (Beam Angle FWHM)	Mounting Type
LAURA-XX	9.5, 12, 13, 30, 41 + 14	Pin, Tape
LISA2-XX	22, 36	Pin, Glue & Clips Glue
TINA2-XX	12, 13, 23, 28, 35, 13 + 41	Pin, Tape
EYA-X	Not Available	Pin, Glue
TITANIUM-XX	Not Available	Tape

Assembly Drawing



Important Information and Precautions

- The PowerAnna’s LEDs, when powered up are very bright. Thus it is advised that you do not look directly at it. Turn the PowerAnna away from you and do not shine into the eyes of others.
- Do not operate PowerAnna’s with a Power Supply with unlimited current. Connection to constant voltage Power Supplies that are not current limited may cause the PowerAnna to consume current above the specified maximum and cause failure or irreparable damage.
- PowerAnna’s, when operated, can reach high temperatures thus there is risk of injury if they are touched.
- DO NOT HOT PLUG ON LED SIDE OF POWER SUPPLY.
- DO NOT TOUCH or PUSH on the LED as this can cause irreparable damage.

Safety Information

- Assembly must not damage or destroy conducting paths on the circuit board.
- The mounting of the module is carried out by attaching it at the mounting holes. Metal mounting screws must be insulated with synthetic washers to prevent circuit board damage and possible short circuiting.
- To avoid mechanical damage to the connecting cables, the boards should be attached securely to the intended substrate. Heavy vibration should be avoided.
- Observe correct polarity!
- Depending on the product, incorrect polarity will lead to emission of Red or no light. The module can be destroyed!
- Pay attention to standard ESD precautions when installing the OSOLON® 1 IR PowerStars.
- The OSOLON® 1 IR PowerStars, as manufactured, have no conformal coating and therefore offer no inherent protection against corrosion.
- Damage by corrosion will not be accepted as a materials defect claim. It is the user's responsibility to provide suitable protection against corrosive agents such as moisture and condensation and other harmful elements.
- For outdoor usage, a housing is definitely required to protect the board against environmental influences. The design of the housing must correspond to the IP standards in the application. It is also the responsibility of the user to ensure any housings or modifications keep the Tc junction temperature to within stated ranges.
- To also ease the luminaire/installation approval, electronic control gear for LED or LED modules should carry the CE mark and be ENEC certified. In Europe the declarations of conformity must include the following standards: CE: EC 61374-2-13, EN 55015, IEC 61547 and IEC 61000-3-2 - ENEC: 61374-2-13 and IEC/EN 62384.
- Depending on the mode of operation, these devices emit highly concentrated, non visible, infrared light which can be hazardous to the human eye. Products which incorporate these devices have to follow the safety precautions given in IEC 60825-1 and IEC 62471.
- The evaluation of eye safety occurs according to the standard IEC 62471:2006 ("photobiological safety of lamps and lamp systems"). Within the risk grouping system of this CIE standard, the LED specified in this data sheet falls into the class "moderate risk" (exposure time 0.25s). Under real circumstances (for exposure time, eye pupils, observation distance), it is assumed that no endangerment to the eye exists from these devices. As a matter of principle, however, it should be mentioned that intense light sources have a high secondary exposure potential due to their blinding effect. As is also true when viewing other bright light sources (e.g. headlights), temporary reduction
- in visual acuity and afterimages can occur, leading to irritation, annoyance, visual impairment and even accidents, depending on the situation.

For further information please contact ILS

The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification.